

# Hawaii Coastal Zone Management Program

technical supplement 10

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**Technical Considerations in Developing  
a Coastal Zone Management Program for Hawaii**

Hawaii, Department of Planning and Economic Development  
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HAWAII COASTAL ZONE MANAGEMENT PROGRAM

Technical Supplement No. 10

Coastal Zone Management in Hawaii:  
The Major Issues

by

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## COASTAL ZONE MANAGEMENT IN HAWAII: THE MAJOR ISSUES

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### MANAGEMENT GOALS

In response to the federal Coastal Zone Management Act of 1972 (P.L. 92-583), 86 Stat. 1280), the State of Hawaii, through its Department of Planning and Economic Development, is working to formulate a program for the management of its coastal area. This overview is designed to help specify the nature of the management that is needed and to identify difficulties that are likely to be encountered.

Section 303 of the Act specifies that the policy is "to preserve, protect, develop, and where possible, to restore or enhance, the resources of the Nation's coastal zone for this and succeeding generations" and says that the management program should be designed "to achieve wise use of the land and water resources of the coastal zone giving full consideration to ecological, cultural, historic, and esthetic values as well as to needs for economic development."

The state, in turn, formulated the following general goals for its coastal zone management program:

1. Preserve and improve the quality of life and the quality of the marine and coastal environment for recreation, the conservation of natural resources, aesthetics, and the health and social well-being of the people of Hawaii.
2. Promote the orderly growth of commerce, industry, and employment in the coastal zone as it proves to be compatible with the goal above.
3. Promote the orderly and responsible use and development of coastal and marine resources.
4. Encourage the effective use of scientific and engineering resources of public and private agencies affecting coastal zone management activities in the State.
5. Promote the cooperation and coordination with other governmental bodies and public or private organizations in developing related public policy.

6. Provide an overview of the complicated interrelationships between land use and the marine environment as they apply to a Statewide coastal management system.<sup>1</sup>

Lists like this may be useful to show the range of responsibilities with which the management system might be charged, but they are not enough. They are too abstract to provide the guidance needed by the designers of the management system. Demands on the system can be displayed much more meaningfully through a survey of the concrete management problems it can be expected to face.

#### MANAGEMENT PROBLEMS - USES

Different activities require different sorts of governmental control Brahtz suggests this list of major types of coastal activities:

##### Extractive Uses/Activities

- Commercial fishing
- Aquaculture
- Surf fishing
- Kelp harvesting
- Boat sportfishing
- Desalination
- Mineral/gravel production
- Petroleum production

##### Nonextractive Uses/Activities

- Policing and regulation
- Commercial shipping, deep draft
- Commercial shipping, moderate draft
- Transport right of way
- Government reservation
- Underwater parks
- Housing, real estate development
- Swimming, sunbathing, surfing
- Waste disposal
- Resorts, parks
- Recreational boating<sup>2</sup>

<sup>1</sup>An Application for Coastal Zone Management Program Development Grants, Honolulu: Department of Planning and Economic Development, 1974, p. 18.

<sup>2</sup>J. F. Peel Brahtz (ed.). Coastal Zone Management: Multiple Use with Conservation, New York: Wiley, 1972, p. 8.

Some of these, such as kelp harvesting and petroleum production, are not relevant to Hawaii. Other possibilities (some of which could be placed under Brahtz's categories) include:

- Sewage treatment plants
- Free trade zones
- Manganese processing plants
- Refineries
- Offshore oil storage
- Floating cities
- Marinas
- Military uses
- Sea-based mass transit
- Diving
- Research stations
- Energy generation (tidal or thermal)
- Esthetic appreciation

Some governmental management tasks, perhaps the great bulk of them, involve sharing the perspective of the users and helping them do what they want to do. Lakes are stocked for sportsfishermen, channels are dredged for boatsmen, beachparks are maintained for recreational users. The policing of such activities to prevent abuses by individuals is accepted in principle as serving the interests of the community as a whole, but of course specific rulings are often cast as unwarranted constraints.

To suggest the variety and complexity of problems which can arise within use categories, the following sections survey a few selected uses of importance in Hawaii: fishing, manganese mining, and military uses.

### FISHING

The Department of Planning and Economic Development summarized the state's fisheries problems as follows:

Overexploitation of reefs is a potential problem area as the population and its affluence, mobility, and leisure time increases. The problem involves siltation of water due to man's construction projects, overaggressive divers, and commercial collectors of exotic tropical reef forms for the home aquarium market. Divers, commercial fishermen, and shell and fish collectors generally favor creation of preserves, but also argue that further controls might severely restrict their use of marine resources.

As an island state, Hawaii's fisheries, including crab fishing, are extremely important, inasmuch as they provide seafood products which are both exported and consumed locally. There are problems, however, which may limit the expansion of this industry in the near future. These include the adequacy of suitable baitfish supplies and the impact of water pollution which has caused both reduced landings and an increase in commercial operating expenses.

Finally, aquaculture has received substantial emphasis in the last decade. The husbanding of marine plants and animals has considerable significance for the future. While the outlook is promising, the aquaculture industry needs the support of local research and development expertise. In addition, the siting of major aquaculture farms will have to be effectively coordinated with other demands and competing uses for Hawaii's shorelands.<sup>3</sup>

It was also pointed out that there is a serious lack of knowledge about the character of the state's fisheries resources and the ways in which those resources are affected by other activities. It is not at all clear, for example, to what extent the depletion of reef fish might be due to "over-aggressive divers" or to sportsfishermen or to pollution, thus making it difficult to legislate or to administer controls.

That Hawaii's current fishing industry is important is questionable. Only eleven tuna boats employing about 100 fishermen operate out of Hawaii, and the other, coastal fishing operations are small as well. Incredibly, Hawaii ranks twentieth among the states of the United States in the size of its annual catch, last of the coastal states, and leading only the landlocked states.<sup>4</sup> That low level of production can hardly be explained simply by the low biological productivity of Hawaiian waters.

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<sup>3</sup> An Application..., p. 14.

<sup>4</sup> United States Senate, Committee on Foreign Relations, U. S. Oceans Policy, Hearing...on S. Resolution 82, Washington: U. S. Government Printing Office, 1973, p. 30.

Technical guidance for fishermen is being provided by an ambitious new Marine Advisory Program out of the office of Sea Grant. Its directors fully appreciate the need for an assessment and overview of fish stocks in Hawaiian waters to determine which are overexploited and which can safely be exploited more intensely.

In terms of hard economic criteria, some portions of the fishing industry should perhaps be allowed to wither away. Efforts have been made to revitalize the state's tuna industry, but with Japanese and Korean vessels able to deliver more cheaply, it may be unprofitable to invest any more capital into the tuna fleet.

Even if the tuna industry could become profitable, there would remain the question of whether the state should subsidize or otherwise support that industry. Similarly, questions can fairly be raised as to whether the aquaculture experimentation that is now being supported is really in the public interest. What is it about an industry that makes it deserving of public support?

Often other considerations besides narrow measures of profitability need to be taken into account. For example, some industries might be encouraged and supported because they provide employment opportunities even if they are not highly profitable. Work currently being done to restore some of the old Hawaiian fishponds seems worthwhile, even if they can never be "efficient" by commercial standards.

#### MANGANESE MINING

Much of the industrial world has been pursuing the commercial exploitation of the manganese nodules found on the deep ocean floor. Some of the most valuable beds are known to be located in the central Pacific, near Hawaii. Manganese crusts, richer than the nodules, have been located very close to the state, some even within the Kauai channel. A preliminary analysis estimated that, because of the high value of the metals it would yield, they would be worth nearly \$800 per ton.<sup>5</sup> Estimates of the potential value have since become more modest.

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<sup>5</sup>Hawaii and the Sea - 1974. Honolulu: Department of Planning and Economic Development, 1974, pp. 2-4, 7-9.

The value potential may have been exaggerated partly because of the mistaken belief that Howard Hughes' Glomar Explorer found it worthwhile to mine for nodules in waters near Hawaii.

The state faces a complex mixture of prospects and problems with respect to the exploitation of oceanic manganese. It is clear that the sea floor and its mineral resources out to a distance of three miles from shore are under the jurisdiction of the state, with the state's Department of Land and Natural Resources being the agency authorized to grant lease rights. (Hawaii Revised Statutes, Chapter 171.) It is not clear, however, what practices or policies DLNR may have established for the granting of such leases.

Most of the manganese of interest lies well beyond three miles from the state's shores, hundreds or thousands of miles away -- but still relatively close. Through the Submerged Lands Act and the Outer Continental Shelf Lands Act of 1953, the federal government controls resources of the ocean floor beyond three miles. How far that jurisdiction extends is uncertain, which means that there is no clear legal basis for excluding operators of other nations.

The extent of national jurisdictions may be defined more precisely at the United Nations Law of the Sea Conference. If, as seems feasible, there is an international agreement that nations should have an economic zone of 200 miles off their coasts, that gain in jurisdiction would go to the federal government rather than to the state. New national legislation, replacing that of 1953, would be required to enlarge the extent of the coastal jurisdiction of the states.

There is a possibility for drawing benefits from the onshore processing of manganese nodules or crusts, perhaps for miners whose home base is on the mainland or in other countries. Hawaii may not be suitable for a variety of reasons, including an inadequate electrical energy supply and the problem of transporting semi-finished or finished products out of Hawaii, but the possibility is still open. Hawaii has a very solid scientific base for dealing with oceanic manganese, centered in its University of Hawaii Manganese Research Project, but it has virtually no strength in the industrial engineering aspects of processing. It has been acknowledged that "the beneficiation and refining processes needed by



the industry are not presently known in Hawaii. Neither are their environmental impacts."<sup>6</sup>

The social implications have not been adequately explored either. It has been argued that a manganese processing industry "would also become a powerful tool to carry out the State's announced policy of dispersion of population and industry to one or more of the Neighbor Islands."<sup>7</sup> It is not obvious that industrializing and populating the neighbor islands is a good idea. It should be acknowledged that the manganese processing industry would be capital intensive, and would not create many good jobs. Most of the skilled, high-paying jobs would likely be filled by new people attracted from outside the state. Thus, rather than helping to disperse the existing population, the industry could attract more new immigrants. Also, the industry would decrease the state's autonomy, making it increasingly dependent on remote decision-makers and remote markets.

It was suggested that "if necessary, the state should be prepared to offer the potential refiners tax and/or lease advantages to attract the type of new industry that environmentally concerned citizens can accept."<sup>8</sup> Who would profit from this enterprise? It should be asked whether the benefits from a new manganese industry might be concentrated in just a few hands. Why should taxpayers, across the board, subsidize an operation from which they would draw little benefit? Given the costs to the State for attracting and developing such a new industry, it may be that for most individuals the net effect would be negative. More attention needs to be given to the state's right to tax the mining and processing not only of manganese nodules but of other ocean resources as well.

A new manganese industry could be environmentally damaging, it could occupy a significant portion of the available coastline further limiting beach access by the general public, and it could lead to a reduction in the degree of local control over local affairs. All of this means that, despite the possible additions to the gross state product, such an industry could make more people worse off than better off. The liabilities need to be examined more carefully.

<sup>6</sup> Hawaii and the Sea - 1974, p. 2-4. Also see Manganese Nodule Deposits in the Pacific - Symposium/Workshop Proceedings, Honolulu: Department of Planning and Economic Development, 1972, and George W. Harvey and J. B. Harmon, Jr., The Mining Processing, and Refining of Ferromanganese Ocean Bottom Deposits in the Hawaiian Islands, Kailua: Pan Pacific Institute of Ocean Science, 1975.

<sup>7</sup> Hawaii and the Sea - 1974, p. 2-4.

<sup>8</sup> Hawaii and the Sea - 1974, p. 7-10.

## MILITARY USES

The military plays an extensive role in the life of Hawaii, through the large portion of the gross state product derived from the Department of Defense budget, through the great expanses of land occupied by military installations (some 28 per cent of all land on Oahu), and also by the significant influence it exerts in the coastal zone.

About 8.9 per cent of Hawaii's 1,052 miles of tidal shoreline is used by the Army, Navy, and Air Force. The Navy alone controls 8.3 per cent, or 87.5 miles. On Oahu, the Navy controls 18 percent of the total 209 miles of shoreline.<sup>9</sup> There is estimated to be 48.7 miles of high quality beaches on Oahu, of which the military controls 7.4 miles, or 15.2 per cent. The Army allows public access to its 1.4 miles on Oahu, a portion of the Air Force's Bellows base allows limited access, and the rest is closed to the public.<sup>10</sup> The entire island of Kahoolawe, with its 34.2 miles of shoreline, is held by the Navy for bombing practice, despite frequent appeals for its return to civilian control.

Pollution, spilling beyond the military areas, has been a problem, as in the case of the once great quantities of sewage dumped into Kaneohe Bay from the Kaneohe Marine Corps Air Station and the case of the massive oyster kill in Pearl Harbor. Serious questions have also been raised about the danger of contamination from nuclear powered vessels.

Coastal military facilities, like the inland facilities, are important because of the danger they bring as potential targets. In March 1975, when it was revealed that the CIA had secretly raised portions of a Soviet submarine from waters along the Hawaiian chain, 750 miles northwest of Honolulu, there was a great clamor over the costliness and secrecy of the operation, but no one thought to ask what the submarine was doing there in the first place. The Barking Sands missile test range off Kauai is undoubtedly of great interest to other nations, even if its character is virtually unknown to local residents. The scenarios that can be imagined for possible hostile actions or possible accidents may be no more implausible than, say, the thought that Pearl Harbor might one day be

<sup>9</sup> Justin Rutka and Chennat Gopalakrishnan. Spheres of Influence in Hawaii's Coastal Zone: Vol. 1. Federal Agency Involvement, Honolulu: Sea Grant, University of Hawaii, 1973, pp. 65-76.

<sup>10</sup> A Plan for Department of Defense Facilities. State of Hawaii, Washington, D. C.: Department of Defense, December 1972, p. 23.

attacked. Planners need to distinguish not only between likely and unlikely events, but also between unlikely and impossible events. If they have a catastrophic potential, like tsunamis for example, planners are obligated to prepare even for highly unlikely events.

Section 304a of the national Coastal Zone Management Act stipulates that for the purposes of the Act, "excluded from the coastal zone are lands the use of which is by law subject solely to the discretion of or which is held in trust by the Federal Government, its officers or agents." Section 306.c.8 requires that "the management program provides for adequate consideration of the national interest involved in the siting of facilities necessary to meet requirements which are other than local in nature." What "adequate consideration" means is not evident, but it is clear that military lands are to be excluded from direct control of the state coastal zone management system. Even without direct control, however, the coastal zone management program in Hawaii will surely need to be concerned with the impacts of military uses.

#### USE CONFLICTS AND CONFLICTS OF INTEREST

A major class of problems receiving very close attention from coastal zone planners is that of conflicts among uses. Of course interactions among uses can sometimes be positive or synergistic, as in the case of aquaculture operations benefiting from the waste heat of power plants. Usually, however, the interaction is one of interference. Harbors interfere with fishing, fishing interferes with swimming, swimming interferes with sailing, and on and on. The variety of possible clashes is almost unlimited, as suggested by the accompanying chart.<sup>11</sup> As pressure on the coastal regions of Hawaii increases, the number of actual conflicts will continue to increase sharply.

For governmental management, however, the serious difficulty is not conflict among uses, but rather conflict among users. Conflicts among uses are readily resolved when the same individuals control the different uses. If the surfers were also the developers, there would be little difficulty in working out beach access. The major issue is that of conflicts of interest among different

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<sup>11</sup>From Edward Wenk, Jr. The Politics of the Ocean, Seattle: University of Washington Press, 1972, p. 179.

**NOTE:** The degree of compatibility indicated in this matrix is evaluated primarily on the basis of functional rather than locational conflicts, in that a future activity will not be introduced into an area where suitable locations are unavailable.

**EXAMPLE:** (1) Examine the effect of introducing a commercial fishing activity into an estuary with existing sewage disposal facilities.  
(2) Examine the effect of introducing sewage disposal facilities into an estuary in which commercial fin-fishing activities exist.

	INTRODUCED ACTIVITIES	EXISTING ACTIVITIES																	
		WATER TRANSPORTATION	COMMERCIAL FISHERIES	EXTRACTIVE INDUSTRIES	WATER UTILIZATION AND ESTUARINE DISCHARGES	URBANIZATION	RECREATION	RESEARCH AND EDUCATION	Space and Facilities	Misc. Recreation	Boating	Swimming and Diving	Sportfishing	Highway, Airport, etc.	Commercial - Industrial	Housing	Sewage Disposal Facilities	Desalination Facilities	Power Facilities
WATER TRANSPORTATION	Vessels																		
	Channels																		
	Portside Facilities																		
COMMERCIAL FISHERIES	Fin Fish																		
	Shell Fish																		
	Aquaculture																		
EXTRACTIVE INDUSTRIES	Petroleum																		
	Solution Mining																		
	Bottom Mining																		
WATER UTILIZATION AND ESTUARINE DISCHARGES	Power Facilities																		
	Desalination Facilities																		
	Sewage Disposal Facilities																		
URBANIZATION	Housing																		
	Commercial - Industrial																		
	Highway, Airport, etc.																		
RECREATION	Sportfishing																		
	Swimming and Diving																		
	Boating																		
	Misc. Recreation																		
RESEARCH AND EDUCATION	Space and Facilities																		

The matrix indicates that for example (1), introduction of commercial fin-fishing activities will not have adverse effects on existing sewage disposal activities; the matrix also indicates however, that for example (2), introduction of sewage disposal facilities will have highly adverse effects on existing commercial fin-fishing activities.

**DEGREE OF COMPATIBILITY**

- VERY LOW
- LOW
- MEDIUM
- HIGH

**FIN-FISHING**

**SEWAGE DISPOSAL**

**EXAMPLE (1)**

**EXAMPLE (2)**

**Matrix of degree to which an introduced activity is compatible with an existing estuarine use. Source: Wilsey & Ham and Department of Interior, Bureau of Sport Fisheries and Wildlife**

groups of people. These conflicts may be among people pursuing different uses, but there is also important conflict within use categories, among surfers, or among developers, for example. The conflicts are between people rather than technologies, and thus they are fundamentally political in character.

Gopalakrishnan and Rutka have identified three major groups with distinctly different interests in the coastal regions, the private owners, the environmental and conservation groups, and the government agencies. They offer examples of conflicts in three major categories.

1. Conflicts between private developers and the conservation or environmental action groups. The developers of the Makaha Surfside Condominium applied for rezoning to the Honolulu City Council to permit building an apartment complex on beachfront property. That rezoning was opposed by local residents, spokesmen for the Waianae Coast Model Cities Program, and other public interest groups on the ground that it would deny the local people access to the beaches, ruin the beauty of the shoreline, and disrupt the local life style.
2. Conflicts between federal or state government and the public interest groups. The State Department of Transportation defended the proposed construction of the offshore reef runway at the Honolulu airport as "an outstanding example of a major public project to bring man and his environment into more productive harmony." The project was challenged by several environmental groups, led by Life of the Land. On the governmental side, the State Department of Transportation was joined in its approval by the Federal Aviation Administration, the U. S. Department of Transportation, the U. S. Army Corps of Engineers, and the Environmental Protection Agency.
3. Conflicts between the federal or state government and the private land owners. A 1969 Honolulu City Council Ordinance designated residential land in the Diamond Head Terrace Area for public park use, allowing land acquisition for the construction of a public park along the shoreline. A number of local homeowners opposed this and challenged the legality of the ordinance.

The inventory of groups and their interests and the list of clashes among them could be extended almost endlessly.

The understanding of what constitutes conflict of interest should not be limited to the visible disputes between large, organized, and vociferous groups. Even those who had enjoyed digging clams at Kaneohe before the bay's pollution destroyed that resource had legitimate interests, despite the fact that they were voiceless. Every time someone is hurt or fails to gain something he might have been entitled to because of the actions of others, there is a conflict of interest.

### DOMINANCE

Conflicts of interest constitute a major arena for management, no matter what the outcomes of those conflicts may be. The management task gains another dimension, however, when it appears that the outcomes have not been balancing out. There seems to be a pattern of dominance in Hawaii's coastal zone in the sense that certain groups regularly and systematically gain a disproportionately large share of the benefits derived from the use of the zone.

The pattern is largely due to the prevailing structure of ownership and decision-making. Gopalakrishnan and Rutka have described the oligopolistic character of shoreline ownership:

Large land holders own about 45 per cent of the state's total shoreline and about 47 per cent of its sandy shoreline. This, in effect, means that a major segment of the state's shoreline is owned and controlled by a handful of private corporations which makes public access to a good portion of this area virtually impossible.<sup>12</sup>

Allowing for military holdings and problems of inaccessibility, they find that "the effective shoreline then amounts to a measly 124 miles out of a total 750 miles, i.e., roughly 16 per cent."<sup>13</sup> Similarly, about three quarters of Oahu's 199 miles of shoreline are controlled by Federal and private interests.<sup>14</sup> The major consequences of this ownership pattern are "an erosion of considerably large areas of shoreline from actual public use," shoreline developments that "have been

<sup>12</sup>Chennat Gopalakrishnan and Justin Rutka. "Some Institutional Constraints to Coastal Zone Management: A Case Study of Hawaii," American Journal of Economics and Sociology, Vol. 33, No. 3 (July 1974), p. 226.

<sup>13</sup>Some Institutional Constraints..., p. 227.

<sup>14</sup>Hawaii and the Sea - 1974, p. 5-5.

largely dictated by considerations of profit maximization" and "the emergence of a new breed of 'landed aristocracy' which exerts a strong influence over some of the key decision-making bodies."<sup>15</sup>

Another manifestation of dominance was described in a resolution, H.R. 468, submitted to the State House in 1973 to call for a moratorium on boat harbor construction. The bill argued that the planned expenditure of \$95 million for boat harbors and facilities during the period 1973-79 would benefit only an unrepresentative 1.2 per cent of the state's population. The facilities would in effect provide each boat owner with a subsidy at public expense of \$9,500 over the time period. Moreover, the construction of such facilities would cause damage to the reefs and destroy fishing, squid, limu, and surfing areas.

In Hawaii and the Sea - 1974, it was acknowledged that mooring and slip fees are less than the cost of those facilities to the state, and that registration fees are less than the cost of processing license applications. "With the present fee structure, the relatively affluent boat owner is being subsidized by the general public, and the state is operating the support system at a deficit when it could be generating surplus..."<sup>16</sup>

The influence of the wealthy is especially evident in the fact that, while great amounts of money are spent to build and operate boat slips for yachtsmen, the few, badly equipped launching ramps used by those who must trailer their boat deteriorate rapidly.

Decision-making in the state is such that some interests are very strongly represented while others are hardly heard at all. This was reflected in the composition of the Task Force which prepared Hawaii and the Sea - 1974, a study designed to guide the state's action in the coming years. Quite sensibly, the Task Force members "included State, Federal, University and industry representatives" but it is not quite true that they "were supported by professionals from all segments of the Hawaii community."<sup>17</sup> It seems there were no ethnic Hawaiians involved. There was no voice for local fishermen or swimmers or divers. There were no women on the Task Force. There was no indication of participation by Life of the Land, Save Our Surf, the Sierra Club, or other comparable local

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<sup>15</sup> Some Institutional Constraints..., p. 227.

<sup>16</sup> Hawaii and the Sea - 1974, p. 5-8.

<sup>17</sup> Hawaii and the Sea - 1974, transmittal letter.

organizations. Certainly consultation with such a broad range of people would have slowed the work of the Task Force, but sometimes efficiency is not worth the cost.

If inequities in the use of the coastal zone are to be treated as serious problems for management, one of the first requirements is that information systems will have to be developed to discover and display the patterns in the distribution of benefits.<sup>18</sup>

### MANAGEMENT STRUCTURES

The most pressing coastal zone management issues in Hawaii relate to management structure, the institutional arrangements for dealing with problems of the kind described in the preceding pages. These are issues which must be met downtown rather than at the shoreline.

The Department of Planning and Economic Development described the difficulties in these terms:

The present problem is not that there is a shortage of public agencies making policy and decisions regarding shoreline use. Rather, there are many points in government bureaucracy at which decisions can be made which influence how the coast is used. This multiplicity and overlap is in part responsible for the inadequate consideration given the ecological effects of various coastal uses.

The coastal zone is both one of the most highly regulated and at the same time most poorly regulated areas in the State. The existing agencies in some cases have responsibility without authority and in other cases authority without responsibility. Any development in the coastal zone in Hawaii is complicated due to requirements for permits and permissions from a variety of regulatory agencies.

Decisions concerning the use of the coastal zone in Hawaii are made by a variety of State, County, and Federal instrumentalities. The diffusion of power and responsibilities for recreation, conservation, and shoreline management creates major jurisdictional conflicts and competing policies. Coordination is attempted, but in practice is difficult to achieve.<sup>19</sup>

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<sup>18</sup>Excellent suggestions are offered in Thomas Dickert and Jens Sorensen, "Social Equity in Coastal Zone Planning," Coastal Zone Management Journal, Vol. 1, No. 2, (Winter 1974), pp. 141-150.

<sup>19</sup>An Application for Coastal Zone Management Program Development Grants, Honolulu: Department of Planning and Economic Development, May 1974, p. 18.



Gopalakrishnan and Rutka offered a number of examples of jurisdictional overlapping:

The Department of Transportation's "commercial orientation" has often generated conflicts with recreation agencies for the shoreline...Another instance in point is the State Land Use Law, which vests the state and county governments with control over the use of land. However, the Department of Transportation has concurrent jurisdiction over the use of shore and submerged lands...The other examples which further illustrate the situation are: the State Department of Health has power to close beaches without consulting other agencies when a health hazard is determined; state-county disputes occur about who should clean up the beaches; and disagreements exist between state and county over who should run the parks.<sup>20</sup>

One reason for the fragmentation of coastal management that has been experienced is the great temptation to define the task narrowly. Narrow definitions allow for thorough research, deep understanding, clear alternatives, tight controls, and careful planning. Thus, some people focus on scientific questions, on water quality control, for example. The management task is then cast as that of finding ways to reduce coliform counts in particular areas. Others, like the advocates of the 1975 Shoreline Protection Bills in the state legislature, cast the problem as one of controlling development on shoreline properties, and their tools are the tools of land use management. Few seem to appreciate that the national Coastal Zone Management Act specifies, in Section 304a, that the seaward limit of the coastal zone is defined as extending fully to the outer limit of the United States territorial sea. That is now also the outer limit of the state's jurisdiction, three miles from shore. Coastal Zone Management must therefore include administration of fishing and the mining of mineral resources such as sand or manganese ores from the sea floor, along with water quality control, land use management, and many other tasks.

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<sup>20</sup> Some Institutional Constraints..., p. 230. The lack of coordination is especially apparent to users. The frustrations an aspiring aquaculturist is likely to encounter are shown in Gordon Trimble, Legal and Administrative Aspects of an Aquaculture Policy for Hawaii: An Assessment, Honolulu: Department of Planning and Economic Development, 1972.

Ultimately, the jurisdictional overlaps and the lack of coordination among the public agencies cannot be dismissed as mere untidiness, as something that can be swept away. It is largely the result of separate agencies jealously guarding their prerogatives. It is in their political interest to maintain their individual spheres of responsibility, even if that goes against the public interest. Thus the interrelationships of the different public agencies concerned with coastal zone management represent a special category of conflicts of interest.

#### CONCEPTS OF OWNERSHIP AND CONTROL

The abuses of the coasts in Hawaii, as in the rest of the United States, "were largely impelled by marketplace economics:"

In the absence of planning, coastal resources tend to become pre-empted on a "first come, first served" basis that spawns a bruising anarchy, for in the competition for scarce shoreline, one use may impede or completely block a second. Solutions are hampered because the coastal margin is a thicket of vested interests, complex public and private ownerships, amidst a tangled skein of legal jurisdictions. Users are often absentee landlords or transients. Nowhere is there a surrogate for the public interest.<sup>21</sup>

The fragmentation that has been experienced is partially due to the weakening of classical concepts of private property in the coastal regions and the absence of any new core principle on which an integrated management structure could be based.

A new way of thinking about the administration of the Earth's resources is being developed with reference to ocean resources beyond the jurisdiction of individual nations. This idea, that certain resources should be regarded as the common heritage of all mankind, is founded on a few basic principles:

1. Peacefulness. The resource should be used only for peaceful purposes.
2. Equity. The benefits derived from the use of the resource should be distributed equitably. This means that...
  - 2a. As a common heritage, everyone is entitled to share in some measure in the benefits from the use of the resource. (This in turn leads to the principle of non-appropriability, such that no individual, corporation, or government has the right to appropriate the resource for its own exclusive benefit.)

<sup>21</sup> Edward Wenk, Jr. The Politics of the Ocean, Seattle: University of Washington Press, 1972, p. 168.

- 2b. A greater share of the benefits should go to the poor.
3. Environmental Protection. Users of the resource should show respect for the integrity of the environment, limiting both depletion and pollution.
4. Common Management. To give effect to these principles, a governing agency responsible for their implementation must be established. That agency, working in behalf of all mankind, should provide for participation by all affected parties in the making of its decisions.

This seems to capture the irreducible essence of the common heritage idea.<sup>22</sup>

Why not think of certain resources within national - or state - jurisdiction as being part of the common heritage?

There are intriguing possibilities. Why not, say, designate this state's shoreline area as the common heritage of all of the people of Hawaii? The legislature could pass a resolution declaring that some or all of the coastal zone was the common heritage of all of the people. Implementation might be carried out by setting aside a portion of the lease or tax revenues obtained from resources drawn from the state's coastal waters. This special fund could be used to advance the public interest in a variety of ways. For example, it could be used for protecting or improving the coastal zone in ways that would benefit all of the people of the state.

Or, it might be decided that it would be in the public interest to reduce inequities in the state by providing services of special benefit to disadvantaged sections of the society. On June 16, 1970 Governor Burns sent a letter to President Nixon congratulating him for his "vision and statesmanship in recommending that developing countries be the primary recipients of royalties derived from mineral exploitation of the sea beds." That idea should be equally

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<sup>22</sup> These points are distilled from the works of Arvid Pardo, Elisabeth Borgese, and others, and from the "Declaration of Principles Governing the Sea-Bed and the Ocean-Floor, and the Subsoil Thereof, beyond the Limits of National Jurisdiction" passed by the United Nations General Assembly in 1970. The idea is undergoing constant development at the Pacem in Maribus meetings held each year in Malta and elsewhere. See, for example, Elisabeth Mann Borgese, "The Seas: Common Heritage of Mankind," Center Magazine (March/April 1972), pp. 13-23; David Krieger, The Oceans: A Common Heritage, Ontario: Peace Research Reviews, 1974; Roderick C. Ogley, "Caracas and the Common Heritage," International Relations, Vol. IV, No. 6 (November 1974), pp. 604-628.

good within the state. Rather than having the funds filtered through a public agency, it might be decided that some special group should be given title to the resources directly. On the basis of the experience in compensating the Indians on the mainland and the Eskimos in Alaska, it might be deemed just that the ethnic Hawaiians should be granted title to the resources of the seabed surrounding the state. This might be seen as an extrapolation of the Hawaiian Homes Commission Act of 1920.

Whatever the mechanism, the state could establish the principle that the benefits derived from the exploitation of the common heritage should not be taken as the exclusive right and property of the extractors themselves.

There is a concept something like the common heritage idea growing within the country, the idea of the public trust. Its history in Hawaii dates back to 1899, just after annexation, when the Hawaii Supreme Court used the doctrine to decide the nature of the state's ownership in a dispute relating to development of Honolulu Harbor. Now, according to Town and Yuen...

The public trust doctrine is gaining increasing recognition as a basis for preservation of the public's right in natural resources. Succinctly stated by the Hawaii Supreme Court, under the public trust doctrine soil under tide water is owned by the state "subject to, but in some sense in trust for, the enjoyment of certain public rights."<sup>23</sup>

The relevant court cases in Hawaii so far "have done little more than establish the principles of public trust doctrine as a restraint on the state's authority to manage and dispose of submerged lands." These principles are summarized as follows:

1. Trust property may only be used for public purposes, and must be held available for use by the general public;
2. Trust property may not be sold, even for a fair cash equivalent; and
3. Trust property must be maintained for uses which are both traditional and related to the natural uses peculiar to the particular resources owned.<sup>24</sup>

<sup>23</sup>Michael A. Town and William W. L. Yuen. "Public Access to Beaches in Hawaii: 'A Social Necessity,'" Hawaii Bar Journal, Vol. X, No. 1 (Spring 1973), pp. 25-26.

<sup>24</sup>Public Access to Beaches..., p. 27.

So far "the Hawaii Supreme Court has not been asked to extend the public trust doctrine beyond the original purposes of protecting the public's right of fishing and navigation." In other jurisdictions, however, the doctrine has been extended to include other uses.<sup>25</sup> Its meaning with respect to off-shore mineral resources in Hawaii is yet to be clarified.

The public trust doctrine and the common heritage principle both point in the same direction and, with further development, they are likely to converge.

Adam Smith and other classical economists argued the principle of the "invisible hand" whereby each individual working for his own self interest would, as a result, also act in the interest of the society as a whole. Often, however, the conditions required for this correspondence between individual and social interests are absent. It is implicitly recognized in both the common heritage and the public trust ideas that, with respect to certain resources, uninhibited use by individuals is undesirable. With uncontrolled use, there may be external costs, negative effects which hurt the society as a whole. Whether the property is cut into separate parcels or treated as a commons which anyone may use freely, without restraint, the result can be that everyone loses. "The individual may benefit, but only at the expense of the group, which must collectively share the impact of the individual's action."<sup>26</sup>

It was suggested earlier that conflicts among uses can generally be resolved rather easily when the uses are undertaken in behalf of the same interests. Instead of being subject to a power struggle between different groups,

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<sup>25</sup>Public Access to Beaches..., p. 27.

<sup>26</sup>Hawaii and the Sea - 1974, p. 1-6. A contrary argument, favoring the adaptation and retention of the market system as the basis for coastal zone management, may be found in Jack L. Knetsch, "Economics and Management of Coastal Zone Resources," in James C. Hite and James M. Stepp (eds.), Coastal Zone Resource Management. New York: Praeger, 1971, pp. 84-94, and in Coastal Zone Communique (Sea Grant, University of Hawaii), No. 5 (December 18, 1972). The market system is compared with other allocative mechanisms in Robert Warren, Mitchell L. Moss, Robert L. Bish, and Lyle E. Craine, Designing Coastal Management Agencies: Problems in Allocating Coastal Resources, Los Angeles: Center for Urban Affairs, University of Southern California, 1972.

decisions can be made on the basis of tradeoffs judged by a single controlling individual or agency. With control under single management, destructive conflict among competing interests can be minimized. Negative impacts on the society as a whole, such as pollution and depletion, can be minimized as well.

Of course, there is a danger of tyranny from such a centralized agency. That danger can be minimized, however, through carefully designed checks. Some risk will remain, but the gains ultimately make the risk worth taking.

One of the major checks is that in its constitution the central managing agency can be designed to be strong in the particular respects in which it needs to be strong, but can be deliberately designed to be weak -- and stay weak -- with respect to other functions. Giving the agency great power over some issues but very limited powers in other areas would help to assure that it would be both acceptable and effective.

A major constraint to the controlling agency's ambition can be derived from the simple fact that the agency is not itself the prime beneficiary of its decisions. Control can be separated from the benefits of ownership. The possibility of separating ownership from control can be shown by a few illustrations: (1) in major corporations, the directors are generally not the major stockholders; (2) in ordinary policing the protectors (and to that extent, controllers) are not the owners and beneficiaries of the property they protect; (3) trust funds provide a strong separation between owners and controllers.

Coherent coastal zone management can be obtained with control vested in a single agency. Ownership, however, should be understood as being vested not in the agency but in the public at large. The managing agency would exercise judgment not in its own behalf, as if it were owner, but in behalf of the public. That is, it would administer a public trust.

This concept would surely be difficult to implement, particularly when special interests habitually claim that what they want is in the public interest. Despite the difficulties, however, it would be useful to advance this view and work toward perfecting it as a guide to decision-making. It is not enough to quiet disputes, to somehow accommodate the variety of private interests. Where before decisions may have been made in terms of mediating private interests, the idea that arguments must be couched in terms of the general public interest can itself be a substantial advance.

### A COASTAL MANAGEMENT AGENCY

It may seem that the remedy for ineffective, splintered management is the creation of a new agency which would, in effect, capture the power of the older agencies. But that thought must be dismissed as politically naive. Any new proposal should be based on the understanding that current political prerogatives, while not immutable, should be respected at least in some degree. Besides, there is just too much to be done. A new agency occupied with concrete problems in relation to particular activities could not possibly give enough attention to all of the different activities in the coastal zone, and it would miss the special problems that can only be seen and managed by an agency which worked to establish an overview.

Here is one approach to be considered. In my judgment a new entity, a Coastal Management Agency, should be created. It would concentrate on over-viewing and coordinating management of coastal activities. The Agency would work to resolve conflicts of interests, prevent degradation of the zone, seek improvements, and generally advance the public interest. To the extent possible, however, these responsibilities would remain with the other, established agencies. That is, primary responsibility for management of particular activities would continue to rest with the separate agencies concerned with those activities.

The precise boundaries between the jurisdictions of the older, use-oriented agencies and the new Coastal Management Agency would ultimately have to be worked out in practice. It is important that the use-oriented agencies should not be seen as subordinate to the Coastal Management Agency. Relations should be kept relatively informal and unstructured so that the Coastal Management Agency would be seen as a facilitator, helping the other agencies. Thus, the Coastal Management Agency would not take over functions which sensibly belong to other agencies of government. It would work with those other agencies having more specialized responsibilities, and through that joint effort, work to see that the public interest in the coastal zone was well served. Sea-based mass transit or ferry systems, for example, would continue to be the primary responsibility of the Department of Transportation. The Coastal Management Agency would intervene only to assure that the Department of Transportation was fully informed of the likely interactions of the activities they contemplated with other coastal activities and to assure that the general public interest was fully respected.

Similarly, land use management functions such as zoning in the shoreline area would be left to the agency having that responsibility inland. The Coastal Management Agency's function would be to assure that the land management agency was fully sensitive to the special considerations appropriate to lands near the shore.

The Coastal Management Agency's activities would generally be advisory, working through other established government agencies, but it would not be restricted to those channels. It would have the right to advise private parties, and it would have the right to hold hearings and to conduct inquiries. One of its major instruments for assuring that the public interest was well served would be its constant insistence that deliberations and decisions were open and thus subject to public scrutiny. It would work to assure that there was effective public participation in the activities of the specialized agencies.

The Agency would also serve the public through a clearinghouse function. One of the major complaints against the 1975 Shoreline Protection Bills was that they would add another level of bureaucracy. Developers argued, fairly, that the simple addition of red tape and amorphous hindrances was not a legitimate means of control. Aspiring users of the coastal zone have a fair right to demand clarity with respect to their rights and obligations and to demand prompt responses to their requests. The Coastal Management Agency would help to assure that application and decision-making procedures were not designed to accommodate the convenience of bureaucrats rather than serving the needs of their public. The Agency would provide applicants with a single contact point where all requirements could be learned quickly. It could work to streamline the permit process, possibly by consolidating application forms. The Agency would constantly work toward improving coordination and cooperation, not only among the agencies, but between the agencies and the public as well.

At times, of course, the Coastal Management Agency's advising would not be enough. Other government agencies or private parties might not be sufficiently responsive. Where its ordinary advising was found to be inadequate, the Agency should have the right to exercise certain decisive powers in the public interest.

The Agency should have the right to step in where no other agency had a clear mandate. It should exercise power in the case of otherwise irreconcilable conflicts of interest, whether those conflicts involved private parties or government agencies or both. Perhaps most importantly, the Coastal Management



Agency should have the right to challenge decisions of others concerning the coastal zone. In cases of disagreement with other government agencies or with private interests, the Agency should have the right to press for what I call hard decisions.

In every case the Agency's actions should be guided by a clear conception of the public interest. There are ways in which the Agency could be helped in distinguishing the public interest from narrow political interest. One factor, just mentioned, would be the absence of secrecy and the positive encouragement of public involvement in decision-making. Further assurances can be drawn from the way in which the Agency is selected, how its members are tenured, and how its decisions are made.

The Agency could be designed so that it does not make the hard decisions itself. It could serve entirely as an advisory body, administering and facilitating, and turning hard decisions over to a special, broadly representative, commission created specifically for the purpose of making decisions in terms of the general public interest.

Alternatively, the hard decision-making might be taken through a step-wise procedure. Original decisions could be made by the Agency itself, under specified conditions. These, however, would be subject to an appeal process, which would then send the question to a special commission. When there was an appeal of the Commission's choice, those hardest of decisions could then be taken to the legislature.

Thus, the Coastal Management Agency could provide the needed overview without being the overlord. Its process-oriented design recognizes the futility of waiting for a final Master Plan which would somehow resolve all the difficult questions. Over time, however, the Agency would be able to contribute effectively to the formulation of a general guiding plan.

The idea that some resources should be regarded as a public trust is a new vision, still being foemed. With careful design, a Coastal Management Agency like that described here can help to give character and form to the idea that the coastal zone should be understood as being held in trust by the government for all of the people.

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